



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
03/26/2018

DEP USE ONLY

Date Received

FORM 50
MUNICIPAL WASTE LANDFILL
LEACHATE ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 50, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 273.255(d) and (e) and 273.276(a)
Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. SITE IDENTIFIER

Applicant/permittee Tervita - Rostraver Township Sanitary Landfill

Site Name Tervita - Rostraver Township Sanitary Landfill

Facility ID (as issued by DEP) 100277

SECTION B. FACILITY INFORMATION

Facility Name: Westmoreland Waste Inc.

Sampling Point Identification MH-1 (LEACHATE)

Location: County Westmoreland Municipality: Rostraver Twp.

Sampling Point: Latitude: ____° ____' ____" Longitude: ____° ____' ____"

Sampling Method: ☐ Pumped ☐ Bailed ☒ GrabSample Field Filtered (must be 0.45 micron)? ☐ Yes ☒ No

Sample Date (mm/dd/yy) 03/01/18 Sample Collection Time: 10:00

Sample Collector's Name: S. Eydlin

Sample Collector's Affiliation: THG Geophysics

Laboratory(ies) Performing Analysis: Geochemical Testing

Laboratory Certification Number(s): 56-00306

Lab Sample Number(s): G1803087-001 Final Lab Analysis Completion Date: 03/12/2018

Were Any Holding Times Exceeded? ☐ Yes ☒ No If Yes, please explain in comments field.

Name/Affiliation of Person Who Filled Out Form Geochemical Testing

Comments:

Moderately turbid - Light brown - Strong musty odor.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

FORM 50
QUARTERLY MUNICIPAL WASTE
LANDFILL
LEACHATE ANALYSES

Monitoring Point No. MH-1 (LEACH)
Sample Date 03/01/18
I.D. No. 100277

For new facilities and cells as well as existing facilities which were permitted and which received waste after April 9, 1988, discharge flow volume from leachate collection shall be measured daily [273.276(a)(1)]. Discharge flow volume from the detection zone shall be estimated weekly [273.255(d)(2)]. Form 50 is due quarterly after the flow of leachate from the collection system has started. For facilities or cells which have received no waste since April 9, 1988, detection zone monitoring will meet permit/closure requirements.

FLOW FACTOR	LEACHATE DISCHARGE	DETECTION ZONE DISCHARGE
Volume (average gpd)	141,000	N/A
Area Drained (acres)	44.6	N/A
Ratio (gallons/acre/day)	3,161.4	N/A

Once leachate flow begins from a leachate collection system, leachate discharge will be analyzed quarterly for all analytes listed below. In the leachate detection zone, any fluid found in any detection zone monitoring point must be sampled during the initial four quarters for the leachate indicator parameters (designated by *, below) to establish a baseline fluid composition. Thereafter, any fluid detected in each monitoring point in the leachate detection zone must be sampled annually for the leachate indicator parameters. Quarterly sampling of the fluid in any detection zone monitoring point for leachate indicator parameters is required only when the quarterly flow at that monitoring point exceeds 10 gallons per acre per day (weekly average for the quarter) for the cell(s) served by that monitoring point. If the indicator analytes confirm leachate contamination in the detection zone, the fluid will be analyzed initially within 30 days and thereafter annually for all analytes listed below. When MCL's (where established) of any detection zone analytes on this form are exceeded, annual groundwater monitoring must include the Subtitle D detection zone add-on list analytes found on Form 19.

ANALYTE (mg/l unless otherwise indicated)		LEACHATE DISCHARGE [†]	DETECTION ZONE DISCHARGE [†]	ANALYSIS METHOD NUMBER
1.* Alkalinity, Total	p	1820		ASTM D 1067-00
2.* Ammonia-Nitrogen	p	332		EPA 350.1
3.* Bicarbonate (as CaCO ₃)	p	1810		SM 4500-CO ₂ D
4.* Calcium, Total	p	200		EPA 200.7
5.* Chemical Oxygen Demand	p	960		HACH 8000
6.* Chloride (Cl)	p	1800		EPA 300.0
7.* Magnesium, Total	p	114		EPA 200.7
8.* pH, Field, (Standard Units)	p			
9.* pH, Laboratory, (Standard Units)	p	7.64		SM 4500-H+ B
10.* Potassium, Total	p	205		EPA 200.7
11.* Specific Conductance, Field (micromhos/cm)	p			
12.* Specific Conductance, Laboratory (micromhos/cm)	p	9370		EPA 120.1
13.* Sodium, Total	p	1090		EPA 200.7
14.* Sulfate, Total	p	50		EPA 300.0
15.* Total Organic Carbon (TOC)	p	247		SM 5310 C
16. Fluoride	p	5.8		EPA 300.0
17. Iron, Total	p	13.1		EPA 200.7
18. Manganese, Total	p	3.26		EPA 200.7
19. Nitrate-Nitrogen	p	0.08		EPA 353.2

[†] Please indicate detection limit if analyte is not detected.

FORM 50

Monitoring Point No. MH-1 (LEACHATE)
 Sample Date 03/01/18
 I.D. No. 100277

ANALYTE		LEACHATE DISCHARGE [†]	DETECTION ZONE DISCHARGE [†]	ANALYSIS METHOD NUMBER
20.	Phenolics, Total (mg/l) p	0.071		EPA 420.4
21.	Total Dissolved Solids (mg/l) p	3810		SM 2540 C
22.	Tritium (pCi/L)#		N/A	EPA 906.0
23.	Turbidity (mg/l) p	130		EPA 180.1
24.	Antimony, Total (µg/l) d	< 20		EPA 200.7
25.	Arsenic, Total (µg/l)	50		EPA 200.7
26.	Barium, Total (µg/l)	1740		EPA 200.7
27.	Beryllium, Total (µg/l) d	< 4		EPA 200.7
28.	Cadmium, Total (µg/l)	< 5		EPA 200.7
29.	Chromium, Total (µg/l)	40		EPA 200.7
30.	Cobalt, Total (µg/l) d	30		EPA 200.7
31.	Copper, Total (µg/l)	10		EPA 200.7
32.	Lead, Total (µg/l)	< 20		EPA 200.7
33.	Mercury, Total (µg/l) p	< 0.20		SM 3112 B
34.	Nickel, Total (µg/l) d	80		EPA 200.7
35.	Selenium, Total (µg/l)	< 20		EPA 200.7
36.	Silver, Total (µg/l)	< 10		EPA 200.7
37.	Thallium, Total (µg/l) d	< 20		EPA 200.7
38.	Vanadium, Total (µg/l) d	10		EPA 200.7
39.	Zinc, Total (µg/l)	110		EPA 200.7
40.	Acetone (µg/l) d	227		EPA 8260
41.	Acrylonitrile (µg/l) d	< 5.0		EPA 8260
42.	Benzene (µg/l)	< 5.0		EPA 8260
43.	Bromochloromethane (µg/l) d	< 5.0		EPA 8260
44.	Bromodichloromethane (µg/l) d	< 5.0		EPA 8260
45.	Bromoform (Tribromomethane) (µg/l)	< 5.0		EPA 8260
46.	Carbon Disulfide (µg/l) d	< 5.0		EPA 8260
47.	Carbon Tetrachloride (µg/l)	< 5.0		EPA 8260
48.	Chlorobenzene (µg/l)	< 5.0		EPA 8260
49.	Chloroethane (Ethyl Chloride) (µg/l)	< 5.0		EPA 8260
50.	Chloroform (Trichloromethane) (µg/l) d	< 5.0		EPA 8260
51.	3-Chloro-1-propene (µg/l) p	< 5.0		EPA 8260
52.	Dibromochloromethane (µg/l) (Chlorodibromomethane)	< 5.0		EPA 8260
53.	1,2-Dibromo-3-chloropropane (µg/l) (DBCP) d	< 5.0		EPA 8260
54.	1,2-Dibromoethane (µg/l) (Ethylene dibromide; EDB)	< 5.0		EPA 8260
55.	1,2-Dichlorobenzene (µg/l) (o-Dichlorobenzene)	< 5.0		EPA 8260
56.	1,3-Dichlorobenzene (µg/l) (m-Dichlorobenzene) p	< 5.0		EPA 8260

† Please indicate detection limit if analyte is not detected.

FORM 50

Monitoring Point No. MH-1 (LEACHAT)
 Sample Date 03/01/18
 I.D. No. 100277

ANALYTE (µg/l)	LEACHATE DISCHARGE†	DETECTION ZONE DISCHARGE†	ANALYSIS METHOD NUMBER
57. 1,4-Dichlorobenzene (p-Dichlorobenzene)	< 5.0		EPA 8260
58. trans-1,4-Dichloro-2-butene d	< 5.0		EPA 8260
59. Dichlorodifluoromethane p	< 5.0		EPA 8260
60. 1,1-Dichloroethane (Ethylidene chloride)	< 5.0		EPA 8260
61. 1,2-Dichloroethane (Ethylene dichloride)	< 5.0		EPA 8260
62. 1,1-Dichloroethene (Vinylidene chloride)	< 5.0		EPA 8260
63. cis-1,2-Dichloroethene	< 5.0		EPA 8260
64. trans-1,2-Dichloroethene	< 5.0		EPA 8260
65. 1,2-Dichloropropane (Propylene dichloride)	< 5.0		EPA 8260
66. cis-1,3-Dichloropropene	< 5.0		EPA 8260
67. trans-1,3-Dichloropropene	< 5.0		EPA 8260
68. Ethyl Benzene	< 5.0		EPA 8260
69. Methyl butyl ketone (2-Hexanone) d	< 5.0		EPA 8260
70. Methyl bromide (Bromomethane)	< 5.0		EPA 8260
71. Methyl chloride (Chloromethane)	< 5.0		EPA 8260
72. Methylene bromide (Dibromomethane) d	< 5.0		EPA 8260
73. Methylene chloride (Dichloromethane)	32.7		EPA 8260
74. Methyl ethyl ketone (MEK; 2-Butanone)	303		EPA 8260
75. Methyl iodide (Iodomethane) d	< 5.0		EPA 8260
76. 4-Methyl-2-pentanone (Methyl isobutyl ketone)	9.3		EPA 8260
77. Styrene d	< 5.0		EPA 8260
78. 1,1,2,2-Tetrachloroethane	< 5.0		EPA 8260
79. 1,1,1,2-Tetrachloroethane	< 5.0		EPA 8260
80. Tetrachloroethene (Perchloroethylene)	< 5.0		EPA 8260
81. Toluene	< 5.0		EPA 8260
82. 1,1,1-Trichloroethane (Methylchloroform)	< 5.0		EPA 8260
83. 1,1,2-Trichloroethane	< 5.0		EPA 8260
84. Trichloroethene	< 5.0		EPA 8260

† Please indicate detection limit if analyte is not detected.

FORM 50

Monitoring Point No. MH-1 (LEACHATE)
Sample Date 03/01/18
I.D. No. 100277

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

<u>Constituent</u>	<u>CAS Number</u>
TIC: 1,4-Dioxane	
TIC: 1-Propanol	
TIC: 2-Methyl-1-propanol	
TIC: 2-Propanol	
TIC: Acetonitrile	
TIC: Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimeth	
TIC: Cyclohexanone	
TIC: Diethyl Ether	
TIC: n-Butanol	
TIC: Tetrahydrofuran	

Date Prepared/Revised
07/09/2018

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Date Received

FORM 50

MUNICIPAL WASTE LANDFILL

LEACHATE ANALYSES

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General References: Section 273.255(d) and (e) and 273.276(a)

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. SITE IDENTIFIER

Applicant/permittee Tervita - Rostraver Township Sanitary Landfill

Site Name Tervita - Rostraver Township Sanitary Landfill

Facility ID (as issued by DEP) 100277

SECTION B. FACILITY INFORMATION

Facility Name: Westmoreland Waste Inc.

Sampling Point Identification MH-1 (LEACHATE)

Location: County Westmoreland

Municipality: Rostraver Twp.

Sampling Point: Latitude: ____° ____' ____" Longitude: ____° ____' ____"

Sampling Method: ☐ Pumped ☐ Bailed ☒ GrabSample Field Filtered (must be 0.45 micron)? ☐ Yes ☒ No

Sample Date (mm/dd/yy) 6/13/18

Sample Collection Time: 10:20

Sample Collector's Name: D. Pius/S. Edylin

Sample Collector's Affiliation: The Hutchinsosn Group

Laboratory(ies) Performing Analysis: Geochemical Testing

Laboratory Certification Number(s): 56-00306

Lab Sample Number(s): G1806911-002

Final Lab Analysis Completion Date: 06/26/2018

Were Any Holding Times Exceeded? ☐ Yes ☒ No If Yes, please explain in comments field.

Name/Affiliation of Person Who Filled Out Form Geochemical Testing

Comments:

Turbid, black, suspended solids, strong musty odor, petroleum sheen.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

FORM 50
QUARTERLY MUNICIPAL WASTE
LANDFILL
LEACHATE ANALYSES

Monitoring Point No. MH-1 (LEACH)
Sample Date 6/13/18
I.D. No. 100277

For new facilities and cells as well as existing facilities which were permitted and which received waste after April 9, 1988, discharge flow volume from leachate collection shall be measured daily [273.276(a)(1)]. Discharge flow volume from the detection zone shall be estimated weekly [273.255(d)(2)]. Form 50 is due quarterly after the flow of leachate from the collection system has started. For facilities or cells which have received no waste since April 9, 1988, detection zone monitoring will meet permit/closure requirements.

FLOW FACTOR	LEACHATE DISCHARGE	DETECTION ZONE DISCHARGE
Volume (average gpd)	N/A	N/A
Area Drained (acres)	N/A	N/A
Ratio (gallons/acre/day)	N/A	N/A

Once leachate flow begins from a leachate collection system, leachate discharge will be analyzed quarterly for all analytes listed below. In the leachate detection zone, any fluid found in any detection zone monitoring point must be sampled during the initial four quarters for the leachate indicator parameters (designated by *, below) to establish a baseline fluid composition. Thereafter, any fluid detected in each monitoring point in the leachate detection zone must be sampled annually for the leachate indicator parameters. Quarterly sampling of the fluid in any detection zone monitoring point for leachate indicator parameters is required only when the quarterly flow at that monitoring point exceeds 10 gallons per acre per day (weekly average for the quarter) for the cell(s) served by that monitoring point. If the indicator analytes confirm leachate contamination in the detection zone, the fluid will be analyzed initially within 30 days and thereafter annually for all analytes listed below. When MCL's (where established) of any detection zone analytes on this form are exceeded, annual groundwater monitoring must include the Subtitle D detection zone add-on list analytes found on Form 19.

ANALYTE (mg/l unless otherwise indicated)		LEACHATE DISCHARGE [†]	DETECTION ZONE DISCHARGE [†]	ANALYSIS METHOD NUMBER
1.* Alkalinity, Total	p	2460		ASTM D 1067-1
2.* Ammonia-Nitrogen	p	631		EPA 350.1
3.* Bicarbonate (as CaCO ₃)	p	2440		SM 4500-CO ₂ D
4.* Calcium, Total	p	257		EPA 200.7
5.* Chemical Oxygen Demand	p	2600		HACH 8000
6.* Chloride (Cl)	p	3400		EPA 300.0
7.* Magnesium, Total	p	143		EPA 200.7
8.* pH, Field, (Standard Units)	p			
9.* pH, Laboratory, (Standard Units)	p	7.92		SM 4500-H+ B
10.* Potassium, Total	p	362		EPA 200.7
11.* Specific Conductance, Field (micromhos/cm)	p			
12.* Specific Conductance, Laboratory (micromhos/cm)	p	15600		EPA 120.1
13.* Sodium, Total	p	1910		EPA 200.7
14.* Sulfate, Total	p	76		EPA 300.0
15.* Total Organic Carbon (TOC)	p	633		SM 5310 C
16. Fluoride	p	18.4		EPA 300.0
17. Iron, Total	p	22.7		EPA 200.7
18. Manganese, Total	p	3.79		EPA 200.7
19. Nitrate-Nitrogen	p	0.06		EPA 353.2

[†] Please indicate detection limit if analyte is not detected.

FORM 50

Monitoring Point No. MH-1 (LEACHATE)
 Sample Date 6/13/18
 I.D. No. 100277

ANALYTE		LEACHATE DISCHARGE [†]	DETECTION ZONE DISCHARGE [†]	ANALYSIS METHOD NUMBER
20.	Phenolics, Total (mg/l) p	1.02		EPA 420.4
21.	Total Dissolved Solids (mg/l) p	7000		SM 2540 C
22.	Tritium (pCi/L)#			EPA 906.0
23.	Turbidity (mg/l) p	230		EPA 180.1
24.	Antimony, Total (µg/l) d	< 20		EPA 200.7
25.	Arsenic, Total (µg/l)	80		EPA 200.7
26.	Barium, Total (µg/l)	7660		EPA 200.7
27.	Beryllium, Total (µg/l) d	< 4		EPA 200.7
28.	Cadmium, Total (µg/l)	< 5		EPA 200.7
29.	Chromium, Total (µg/l)	70		EPA 200.7
30.	Cobalt, Total (µg/l) d	20		EPA 200.7
31.	Copper, Total (µg/l)	< 10		EPA 200.7
32.	Lead, Total (µg/l)	40		EPA 200.7
33.	Mercury, Total (µg/l) p	< 0.20		SM 3112 B
34.	Nickel, Total (µg/l) d	90		EPA 200.7
35.	Selenium, Total (µg/l)	< 20		EPA 200.7
36.	Silver, Total (µg/l)	< 10		EPA 200.7
37.	Thallium, Total (µg/l) d	< 20		EPA 200.7
38.	Vanadium, Total (µg/l) d	20		EPA 200.7
39.	Zinc, Total (µg/l)	170		EPA 200.7
40.	Acetone (µg/l) d	682		EPA 8260
41.	Acrylonitrile (µg/l) d	< 5.0		EPA 8260
42.	Benzene (µg/l)	< 5.0		EPA 8260
43.	Bromochloromethane (µg/l) d	< 5.0		EPA 8260
44.	Bromodichloromethane (µg/l) d	< 5.0		EPA 8260
45.	Bromoform (Tribromomethane) (µg/l)	< 5.0		EPA 8260
46.	Carbon Disulfide (µg/l) d	< 5.0		EPA 8260
47.	Carbon Tetrachloride (µg/l)	< 5.0		EPA 8260
48.	Chlorobenzene (µg/l)	< 5.0		EPA 8260
49.	Chloroethane (Ethyl Chloride) (µg/l)	< 5.0		EPA 8260
50.	Chloroform (Trichloromethane) (µg/l) d	< 5.0		EPA 8260
51.	3-Chloro-1-propene (µg/l) p	< 5.0		EPA 8260
52.	Dibromochloromethane (µg/l) (Chlorodibromomethane)	< 5.0		EPA 8260
53.	1,2-Dibromo-3-chloropropane (µg/l) (DBCP) d	< 5.0		EPA 8260
54.	1,2-Dibromoethane (µg/l) (Ethylene dibromide; EDB)	< 5.0		EPA 8260
55.	1,2-Dichlorobenzene (µg/l) (o-Dichlorobenzene)	< 5.0		EPA 8260
56.	1,3-Dichlorobenzene (µg/l) (m-Dichlorobenzene) p	< 5.0		EPA 8260

[†] Please indicate detection limit if analyte is not detected.

FORM 50

Monitoring Point No. MH-1 (LEACHATE)
 Sample Date 6/13/18
 I.D. No. 100277

ANALYTE (µg/l)		LEACHATE DISCHARGE†	DETECTION ZONE DISCHARGE†	ANALYSIS METHOD NUMBER
57.	1,4-Dichlorobenzene (p-Dichlorobenzene)	< 5.0		EPA 8260
58.	trans-1,4-Dichloro-2-butene d	< 5.0		EPA 8260
59.	Dichlorodifluoromethane p	< 5.0		EPA 8260
60.	1,1-Dichloroethane (Ethylidene chloride)	< 5.0		EPA 8260
61.	1,2-Dichloroethane (Ethylene dichloride)	< 5.0		EPA 8260
62.	1,1-Dichloroethene (Vinylidene chloride)	< 5.0		EPA 8260
63.	cis-1,2-Dichloroethene	< 5.0		EPA 8260
64.	trans-1,2-Dichloroethene	< 5.0		EPA 8260
65.	1,2-Dichloropropane (Propylene dichloride)	< 5.0		EPA 8260
66.	cis-1,3-Dichloropropene	< 5.0		EPA 8260
67.	trans-1,3-Dichloropropene	< 5.0		EPA 8260
68.	Ethyl Benzene	9.0		EPA 8260
69.	Methyl butyl ketone (2-Hexanone) d	8.2		EPA 8260
70.	Methyl bromide (Bromomethane)	< 5.0		EPA 8260
71.	Methyl chloride (Chloromethane)	< 5.0		EPA 8260
72.	Methylene bromide (Dibromomethane) d	< 5.0		EPA 8260
73.	Methylene chloride (Dichloromethane)	< 5.0		EPA 8260
74.	Methyl ethyl ketone (MEK; 2-Butanone)	961		EPA 8260
75.	Methyl iodide (Iodomethane) d	< 5.0		EPA 8260
76.	4-Methyl-2-pentanone (Methyl isobutyl ketone)	36.5		EPA 8260
77.	Styrene d	< 5.0		EPA 8260
78.	1,1,2,2-Tetrachloroethane	< 5.0		EPA 8260
79.	1,1,1,2-Tetrachloroethane	< 5.0		EPA 8260
80.	Tetrachloroethene (Perchloroethylene)	< 5.0		EPA 8260
81.	Toluene	27.9		EPA 8260
82.	1,1,1-Trichloroethane (Methylchloroform)	< 5.0		EPA 8260
83.	1,1,2-Trichloroethane	< 5.0		EPA 8260
84.	Trichloroethene	< 5.0		EPA 8260

† Please indicate detection limit if analyte is not detected.

FORM 50

Monitoring Point No. MH-1 (LEACHATE)
Sample Date 6/13/18
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Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

<u>Constituent</u>	<u>CAS Number</u>
TIC: 1,2,4-Trimethylbenzene	
TIC: 1,4-Dioxane	
TIC: 1-Propanol	
TIC: 2-Methyl-1-propanol	
TIC: 2-Propanol	
TIC: Acetonitrile	
TIC: Diethyl Ether	
TIC: Naphthalene	
TIC: n-Butanol	
TIC: Tetrahydrofuran	



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised

08/27/2018

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Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

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Applicant/permittee Tervita - Rostraver Township Sanitary Landfill

Site Name Tervita - Rostraver Township Sanitary Landfill

Facility ID (as issued by DEP) 100277

SECTION B. FACILITY INFORMATION

Facility Name: Westmoreland Waste Inc.

Sampling Point Identification MH-1 (LEACHATE)

Location: County Westmoreland

Municipality: Rostraver Twp.

Sampling Point: Latitude: ____° ____' ____" Longitude: ____° ____' ____"

Sampling Method: ☐ Pumped ☐ Bailed ☒ GrabSample Field Filtered (must be 0.45 micron)? ☐ Yes ☒ No

Sample Date (mm/dd/yy) 8/9/18

Sample Collection Time: 10:00

Sample Collector's Name: D. Pius/S. Eydlin

Sample Collector's Affiliation: The Hutchinson Group

Laboratory(ies) Performing Analysis: Geochemical Testing

Laboratory Certification Number(s): 56-00306

Lab Sample Number(s): G1808662-001

Final Lab Analysis Completion Date: 08/21/2018

Were Any Holding Times Exceeded? ☐ Yes ☒ No If Yes, please explain in comments field.

Name/Affiliation of Person Who Filled Out Form Geochemical Testing

Comments:

Highly turbid, dark brown, strong musty odor.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

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QUARTERLY MUNICIPAL WASTE
LANDFILL
LEACHATE ANALYSES

Monitoring Point No. MH-1 (LEACH)
Sample Date 8/9/18
I.D. No. 100277

For new facilities and cells as well as existing facilities which were permitted and which received waste after April 9, 1988, discharge flow volume from leachate collection shall be measured daily [273.276(a)(1)]. Discharge flow volume from the detection zone shall be estimated weekly [273.255(d)(2)]. Form 50 is due quarterly after the flow of leachate from the collection system has started. For facilities or cells which have received no waste since April 9, 1988, detection zone monitoring will meet permit/closure requirements.

FLOW FACTOR	LEACHATE DISCHARGE	DETECTION ZONE DISCHARGE
Volume (average gpd)	40,138	N/A
Area Drained (acres)	40.5	N/A
Ratio (gallons/acre/day)	991.1	N/A

Once leachate flow begins from a leachate collection system, leachate discharge will be analyzed quarterly for all analytes listed below. In the leachate detection zone, any fluid found in any detection zone monitoring point must be sampled during the initial four quarters for the leachate indicator parameters (designated by *, below) to establish a baseline fluid composition. Thereafter, any fluid detected in each monitoring point in the leachate detection zone must be sampled annually for the leachate indicator parameters. Quarterly sampling of the fluid in any detection zone monitoring point for leachate indicator parameters is required only when the quarterly flow at that monitoring point exceeds 10 gallons per acre per day (weekly average for the quarter) for the cell(s) served by that monitoring point. If the indicator analytes confirm leachate contamination in the detection zone, the fluid will be analyzed initially within 30 days and thereafter annually for all analytes listed below. When MCL's (where established) of any detection zone analytes on this form are exceeded, annual groundwater monitoring must include the Subtitle D detection zone add-on list analytes found on Form 19.

ANALYTE (mg/l unless otherwise indicated)		LEACHATE DISCHARGE [†]	DETECTION ZONE DISCHARGE [†]	ANALYSIS METHOD NUMBER
1.* Alkalinity, Total	p	2780		ASTM D 1067-11
2.* Ammonia-Nitrogen	p	814		EPA 350.1
3.* Bicarbonate (as CaCO ₃)	p	2740		SM 4500-CO2 D
4.* Calcium, Total	p	219		EPA 200.7
5.* Chemical Oxygen Demand	p	2200		HACH 8000
6.* Chloride (Cl)	p	3540		EPA 300.0
7.* Magnesium, Total	p	151		EPA 200.7
8.* pH, Field, (Standard Units)	p	NA		SM 4500 H+B
9.* pH, Laboratory, (Standard Units)	p	8.16		SM 4500-H+ B
10.* Potassium, Total	p	438		EPA 200.7
11.* Specific Conductance, Field (micromhos/cm)	p	NA		EPA 120.1
12.* Specific Conductance, Laboratory (micromhos/cm)	p	17000		EPA 120.1
13.* Sodium, Total	p	2130		EPA 200.7
14.* Sulfate, Total	p	50		EPA 300.0
15.* Total Organic Carbon (TOC)	p	529		SM 5310 C
16. Fluoride	p	9.3		EPA 300.0
17. Iron, Total	p	18.2		EPA 200.7
18. Manganese, Total	p	2.73		EPA 200.7
19. Nitrate-Nitrogen	p	0.13		EPA 353.2

[†] Please indicate detection limit if analyte is not detected.

FORM 50

Monitoring Point No. MH-1 (LEACHATE)
 Sample Date 8/9/18
 I.D. No. 100277

ANALYTE		LEACHATE DISCHARGE [†]	DETECTION ZONE DISCHARGE [†]	ANALYSIS METHOD NUMBER
20.	Phenolics, Total (mg/l) p	0.032		EPA 420.4
21.	Total Dissolved Solids (mg/l) p	8230		SM 2540 C
22.	Tritium (pCi/L)#			EPA 906.0
23.	Turbidity (mg/l) p	165		EPA 180.1
24.	Antimony, Total (µg/l) d	20		EPA 200.7
25.	Arsenic, Total (µg/l)	100		EPA 200.7
26.	Barium, Total (µg/l)	3670		EPA 200.7
27.	Beryllium, Total (µg/l) d	< 4		EPA 200.7
28.	Cadmium, Total (µg/l)	< 5		EPA 200.7
29.	Chromium, Total (µg/l)	90		EPA 200.7
30.	Cobalt, Total (µg/l) d	30		EPA 200.7
31.	Copper, Total (µg/l)	< 10		EPA 200.7
32.	Lead, Total (µg/l)	< 20		EPA 200.7
33.	Mercury, Total (µg/l) p	< 0.20		SM 3112 B
34.	Nickel, Total (µg/l) d	120		EPA 200.7
35.	Selenium, Total (µg/l)	< 20		EPA 200.7
36.	Silver, Total (µg/l)	< 10		EPA 200.7
37.	Thallium, Total (µg/l) d	< 20		EPA 200.7
38.	Vanadium, Total (µg/l) d	20		EPA 200.7
39.	Zinc, Total (µg/l)	130		EPA 200.7
40.	Acetone (µg/l) d	847		EPA 8260
41.	Acrylonitrile (µg/l) d	< 5.0		EPA 8260
42.	Benzene (µg/l)	< 5.0		EPA 8260
43.	Bromochloromethane (µg/l) d	< 5.0		EPA 8260
44.	Bromodichloromethane (µg/l) d	< 5.0		EPA 8260
45.	Bromoform (Tribromomethane) (µg/l)	< 5.0		EPA 8260
46.	Carbon Disulfide (µg/l) d	< 5.0		EPA 8260
47.	Carbon Tetrachloride (µg/l)	< 5.0		EPA 8260
48.	Chlorobenzene (µg/l)	< 5.0		EPA 8260
49.	Chloroethane (Ethyl Chloride) (µg/l)	< 5.0		EPA 8260
50.	Chloroform (Trichloromethane) (µg/l) d	< 5.0		EPA 8260
51.	3-Chloro-1-propene (µg/l) p	< 5.0		EPA 8260
52.	Dibromochloromethane (µg/l) (Chlorodibromomethane)	< 5.0		EPA 8260
53.	1,2-Dibromo-3-chloropropane (µg/l) (DBCP) d	< 5.0		EPA 8260
54.	1,2-Dibromoethane (µg/l) (Ethylene dibromide; EDB)	< 5.0		EPA 8260
55.	1,2-Dichlorobenzene (µg/l) (o-Dichlorobenzene)	< 5.0		EPA 8260
56.	1,3-Dichlorobenzene (µg/l) (m-Dichlorobenzene) p	< 5.0		EPA 8260

[†] Please indicate detection limit if analyte is not detected.

FORM 50

Monitoring Point No. MH-1 (LEACHATE)
 Sample Date 8/9/18
 I.D. No. 100277

ANALYTE (µg/l)		LEACHATE DISCHARGE†	DETECTION ZONE DISCHARGE†	ANALYSIS METHOD NUMBER
57.	1,4-Dichlorobenzene (p-Dichlorobenzene)	< 5.0		EPA 8260
58.	trans-1,4-Dichloro-2-butene d	< 5.0		EPA 8260
59.	Dichlorodifluoromethane p	< 5.0		EPA 8260
60.	1,1-Dichloroethane (Ethylidene chloride)	< 5.0		EPA 8260
61.	1,2-Dichloroethane (Ethylene dichloride)	< 5.0		EPA 8260
62.	1,1-Dichloroethene (Vinylidene chloride)	< 5.0		EPA 8260
63.	cis-1,2-Dichloroethene	< 5.0		EPA 8260
64.	trans-1,2-Dichloroethene	< 5.0		EPA 8260
65.	1,2-Dichloropropane (Propylene dichloride)	< 5.0		EPA 8260
66.	cis-1,3-Dichloropropene	< 5.0		EPA 8260
67.	trans-1,3-Dichloropropene	< 5.0		EPA 8260
68.	Ethyl Benzene	< 5.0		EPA 8260
69.	Methyl butyl ketone (2-Hexanone) d	< 5.0		EPA 8260
70.	Methyl bromide (Bromomethane)	< 5.0		EPA 8260
71.	Methyl chloride (Chloromethane)	< 5.0		EPA 8260
72.	Methylene bromide (Dibromomethane) d	< 5.0		EPA 8260
73.	Methylene chloride (Dichloromethane)	< 5.0		EPA 8260
74.	Methyl ethyl ketone (MEK; 2-Butanone)	1620		EPA 8260
75.	Methyl iodide (Iodomethane) d	< 5.0		EPA 8260
76.	4-Methyl-2-pentanone (Methyl isobutyl ketone)	NA		EPA 8260
77.	Styrene d	< 5.0		EPA 8260
78.	1,1,2,2-Tetrachloroethane	< 5.0		EPA 8260
79.	1,1,1,2-Tetrachloroethane	< 5.0		EPA 8260
80.	Tetrachloroethene (Perchloroethylene)	< 5.0		EPA 8260
81.	Toluene	< 5.0		EPA 8260
82.	1,1,1-Trichloroethane (Methylchloroform)	< 5.0		EPA 8260
83.	1,1,2-Trichloroethane	< 5.0		EPA 8260
84.	Trichloroethene	< 5.0		EPA 8260

† Please indicate detection limit if analyte is not detected.



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
01/11/2019

DEP USE ONLY

Date Received

FORM 50
MUNICIPAL WASTE LANDFILL
LEACHATE ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 50, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 273.255(d) and (e) and 273.276(a)

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. SITE IDENTIFIER

Applicant/permittee Westmoreland Waste LLC

Site Name Westmoreland Waste LLC

Facility ID (as issued by DEP) 100277

SECTION B. FACILITY INFORMATION

Facility Name: Westmoreland Waste LLC

Sampling Point Identification MH-1 (LEACHATE)

Location: County Westmoreland

Municipality: Rostraver Twp.

Sampling Point: Latitude: ____° ____' ____" Longitude: ____° ____' ____"

Sampling Method: ☐ Pumped ☐ Bailed ☒ Grab

Sample Field Filtered (must be 0.45 micron)? ☐ Yes ☒ No

Sample Date (mm/dd/yy) 12/13/18

Sample Collection Time: 11:10

Sample Collector's Name: David Custer

Sample Collector's Affiliation: Geochemical Testing

Laboratory(ies) Performing Analysis: Geochemical Testing

Laboratory Certification Number(s): 56-00306

Lab Sample Number(s): G1812865-003

Final Lab Analysis Completion Date: 01/09/2019

Were Any Holding Times Exceeded? ☐ Yes ☒ No If Yes, please explain in comments field.

Name/Affiliation of Person Who Filled Out Form Geochemical Testing

Comments:

Turbid - Strong odor - Amber.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

FORM 50
QUARTERLY MUNICIPAL WASTE
LANDFILL
LEACHATE ANALYSES

Monitoring Point No. MH-1 (LEACHATE)
Sample Date 12/13/18
I.D. No. 100277

For new facilities and cells as well as existing facilities which were permitted and which received waste after April 9, 1988, discharge flow volume from leachate collection shall be measured daily [273.276(a)(1)]. Discharge flow volume from the detection zone shall be estimated weekly [273.255(d)(2)]. Form 50 is due quarterly after the flow of leachate from the collection system has started. For facilities or cells which have received no waste since April 9, 1988, detection zone monitoring will meet permit/closure requirements.

FLOW FACTOR	LEACHATE DISCHARGE	DETECTION ZONE DISCHARGE
Volume (average gpd)	101471.33	
Area Drained (acres)	44.6	
Ratio (gallons/acre/day)	2275.1	

Once leachate flow begins from a leachate collection system, leachate discharge will be analyzed quarterly for all analytes listed below. In the leachate detection zone, any fluid found in any detection zone monitoring point must be sampled during the initial four quarters for the leachate indicator parameters (designated by *, below) to establish a baseline fluid composition. Thereafter, any fluid detected in each monitoring point in the leachate detection zone must be sampled annually for the leachate indicator parameters. Quarterly sampling of the fluid in any detection zone monitoring point for leachate indicator parameters is required only when the quarterly flow at that monitoring point exceeds 10 gallons per acre per day (weekly average for the quarter) for the cell(s) served by that monitoring point. If the indicator analytes confirm leachate contamination in the detection zone, the fluid will be analyzed initially within 30 days and thereafter annually for all analytes listed below. When MCL's (where established) of any detection zone analytes on this form are exceeded, annual groundwater monitoring must include the Subtitle D detection zone add-on list analytes found on Form 19.

ANALYTE (mg/l unless otherwise indicated)		LEACHATE DISCHARGE [†]	DETECTION ZONE DISCHARGE [†]	ANALYSIS METHOD NUMBER
1.* Alkalinity, Total	p	1830		ASTM D 1067-1
2.* Ammonia-Nitrogen	p	298		EPA 350.1
3.* Bicarbonate (as CaCO ₃)	p	1820		SM 4500-CO ₂ D
4.* Calcium, Total	p	120		EPA 200.7
5.* Chemical Oxygen Demand	p	1000		HACH 8000
6.* Chloride (Cl)	p	1770		EPA 300.0
7.* Magnesium, Total	p	87.1		EPA 200.7
8.* pH, Field, (Standard Units)	p	7.70		SM 4500 H+B
9.* pH, Laboratory, (Standard Units)	p	7.53		SM 4500-H+ B
10.* Potassium, Total	p	202		EPA 200.7
11.* Specific Conductance, Field (micromhos/cm)	p	7170		EPA 120.1
12.* Specific Conductance, Laboratory (micromhos/cm)	p	8790		EPA 120.1
13.* Sodium, Total	p	922		EPA 200.7
14.* Sulfate, Total	p	72		EPA 300.0
15.* Total Organic Carbon (TOC)	p	136		SM 5310 C
16. Fluoride	p	< 1.0		EPA 300.0
17. Iron, Total	p	4.79		EPA 200.7
18. Manganese, Total	p	0.58		EPA 200.7
19. Nitrate-Nitrogen	p	0.36		EPA 353.2

[†] Please indicate detection limit if analyte is not detected.

FORM 50

Monitoring Point No. MH-1 (LEACHATE)
 Sample Date 12/13/18
 I.D. No. 100277

ANALYTE		LEACHATE DISCHARGE [†]	DETECTION ZONE DISCHARGE [†]	ANALYSIS METHOD NUMBER
20.	Phenolics, Total (mg/l) p	0.057		EPA 420.4
21.	Total Dissolved Solids (mg/l) p	3650		SM 2540 C
22.	Tritium (pCi/L)#	23400+-2260		EPA 906.0
23.	Turbidity (mg/l) p	55.0		EPA 180.1
24.	Antimony, Total (µg/l) d	< 100		EPA 200.7
25.	Arsenic, Total (µg/l)	30		EPA 200.7
26.	Barium, Total (µg/l)	1800		EPA 200.7
27.	Beryllium, Total (µg/l) d	< 4		EPA 200.7
28.	Cadmium, Total (µg/l)	< 5		EPA 200.7
29.	Chromium, Total (µg/l)	30		EPA 200.7
30.	Cobalt, Total (µg/l) d	10		EPA 200.7
31.	Copper, Total (µg/l)	< 10		EPA 200.7
32.	Lead, Total (µg/l)	< 20		EPA 200.7
33.	Mercury, Total (µg/l) p	< 0.20		SM 3112 B
34.	Nickel, Total (µg/l) d	50		EPA 200.7
35.	Selenium, Total (µg/l)	< 20		EPA 200.7
36.	Silver, Total (µg/l)	< 10		EPA 200.7
37.	Thallium, Total (µg/l) d	< 20		EPA 200.7
38.	Vanadium, Total (µg/l) d	< 10		EPA 200.7
39.	Zinc, Total (µg/l)	80		EPA 200.7
40.	Acetone (µg/l) d	< 100		EPA 8260
41.	Acrylonitrile (µg/l) d	< 5.0		EPA 8260
42.	Benzene (µg/l)	< 5.0		EPA 8260
43.	Bromochloromethane (µg/l) d	< 5.0		EPA 8260
44.	Bromodichloromethane (µg/l) d	< 5.0		EPA 8260
45.	Bromoform (Tribromomethane) (µg/l)	< 5.0		EPA 8260
46.	Carbon Disulfide (µg/l) d	< 5.0		EPA 8260
47.	Carbon Tetrachloride (µg/l)	< 5.0		EPA 8260
48.	Chlorobenzene (µg/l)	< 5.0		EPA 8260
49.	Chloroethane (Ethyl Chloride) (µg/l)	< 5.0		EPA 8260
50.	Chloroform (Trichloromethane) (µg/l) d	< 5.0		EPA 8260
51.	3-Chloro-1-propene (µg/l) p	< 5.0		EPA 8260
52.	Dibromochloromethane (µg/l) (Chlorodibromomethane)	< 5.0		EPA 8260
53.	1,2-Dibromo-3-chloropropane (µg/l) (DBCP) d	< 5.0		EPA 8260
54.	1,2-Dibromoethane (µg/l) (Ethylene dibromide; EDB)	< 5.0		EPA 8260
55.	1,2-Dichlorobenzene (µg/l) (o-Dichlorobenzene)	< 5.0		EPA 8260
56.	1,3-Dichlorobenzene (µg/l) (m-Dichlorobenzene) p	< 5.0		EPA 8260

[†] Please indicate detection limit if analyte is not detected.

FORM 50

Monitoring Point No. MH-1 (LEACHATE)
 Sample Date 12/13/18
 I.D. No. 100277

ANALYTE (µg/l)	LEACHATE DISCHARGE†	DETECTION ZONE DISCHARGE†	ANALYSIS METHOD NUMBER
57. 1,4-Dichlorobenzene (p-Dichlorobenzene)	< 5.0		EPA 8260
58. trans-1,4-Dichloro-2-butene d	< 5.0		EPA 8260
59. Dichlorodifluoromethane p	< 5.0		EPA 8260
60. 1,1-Dichloroethane (Ethylidene chloride)	< 5.0		EPA 8260
61. 1,2-Dichloroethane (Ethylene dichloride)	< 5.0		EPA 8260
62. 1,1-Dichloroethene (Vinylidene chloride)	< 5.0		EPA 8260
63. cis-1,2-Dichloroethene	< 5.0		EPA 8260
64. trans-1,2-Dichloroethene	< 5.0		EPA 8260
65. 1,2-Dichloropropane (Propylene dichloride)	< 5.0		EPA 8260
66. cis-1,3-Dichloropropene	< 5.0		EPA 8260
67. trans-1,3-Dichloropropene	< 5.0		EPA 8260
68. Ethyl Benzene	11.4		EPA 8260
69. Methyl butyl ketone (2-Hexanone) d	< 5.0		EPA 8260
70. Methyl bromide (Bromomethane)	< 5.0		EPA 8260
71. Methyl chloride (Chloromethane)	< 5.0		EPA 8260
72. Methylene bromide (Dibromomethane) d	< 5.0		EPA 8260
73. Methylene chloride (Dichloromethane)	< 5.0		EPA 8260
74. Methyl ethyl ketone (MEK; 2-Butanone)	90.4		EPA 8260
75. Methyl iodide (Iodomethane) d	< 5.0		EPA 8260
76. 4-Methyl-2-pentanone (Methyl isobutyl ketone)	6.5		EPA 8260
77. Styrene d	< 5.0		EPA 8260
78. 1,1,2,2-Tetrachloroethane	< 5.0		EPA 8260
79. 1,1,1,2-Tetrachloroethane	< 5.0		EPA 8260
80. Tetrachloroethene (Perchloroethylene)	< 5.0		EPA 8260
81. Toluene	18.5		EPA 8260
82. 1,1,1-Trichloroethane (Methylchloroform)	< 5.0		EPA 8260
83. 1,1,2-Trichloroethane	< 5.0		EPA 8260
84. Trichloroethene	< 5.0		EPA 8260

† Please indicate detection limit if analyte is not detected.

FORM 50

Monitoring Point No. MH-1 (LEACHATE)
Sample Date 12/13/18
I.D. No. 100277

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

<u>Constituent</u>	<u>CAS Number</u>
TIC: 1,2,3-Trimethylbenzene	
TIC: 1,2,4-Trimethylbenzene	
TIC: 1,3,5-Trimethylbenzene	
TIC: 1,4-Dioxane	
TIC: 2-Methylnaphthalene	
TIC: Acetonitrile	
TIC: Diethyl Ether	
TIC: Naphthalene	
TIC: n-Butanol	
TIC: Tetrahydrofuran	